

of said plurality of buffers in accordance with a predetermined pattern, in order, the method comprising the steps of:

a receiving process for receiving predetermined information output from another node device; and

a control process for controlling in order to deviate a timing when a switching means of an adjacent node device connects a first buffer and a first output channel of the adjacent node device, from a timing when the switching means of the node device itself connects a first buffer and a first output channel of the node device, in accordance with the predetermined information received in the receiving process.

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REMARKS

This application has been carefully reviewed in light of the Office Action dated April 23, 2002. Claims 41, 43 to 46 and 48 to 52 are now pending in the application, with Claims 42 and 47 having been cancelled, and the remaining claims having been amended. Claims 41, 46, 51 and 52 are the independent claims herein. Reconsideration and further examination are respectfully requested.

Claims 41 to 50 and 52 were objected to, and Claims 41 to 52 were rejected under 35 U.S.C. § 112, second paragraph. The claims have been amended to provide even better clarity, and all of the points noted in the Office Action have been attended to by amendment. Accordingly, withdrawal of the objections and § 112 rejections is respectfully requested.

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Claims 41 to 43, 46 to 48, 51 and 52 were rejected under the judicially created doctrine of obviousness-type double patenting over Claims 1 to 66 of U.S. Patent No. 5,859,718 (Yamamoto). Since no art based rejections were entered against Claims 44, 45, 49 and 50, Applicant presumes that the subject matter of those claims is allowable, and since all of the objections and § 112 rejections have been attended to, those claims are now believed to be in condition for allowance. As to the remaining claims, reconsideration and withdrawal of the double patenting rejection are respectfully requested.

The present invention concerns control of communication in a node device. According to the invention, a timing is deviated from when a switching means of an adjacent node device connects a first buffer and a first output channel of the adjacent node device, from a timing when a switching means of the node device itself connects a first buffer and a first output channel of the node device, in accordance with predetermined information output from another node device. As a result, delays in communication that may otherwise occur are reduced since the signals are not simultaneously output by the same channel of adjacent node devices.

Referring specifically to the claims, amended independent Claim 46 is a node device, comprising a plurality of buffers for storing a signal received from each channel of a plurality of input channels, a switching means for altering an output channel connected to each buffer of the plurality of buffers in accordance with a predetermined pattern, in order, and a control means for controlling in order to deviate a timing between when a switching means of an adjacent node device connects a first buffer and a first output channel of the adjacent node device, from a timing when the switching means of the

node device itself connects a first buffer and a first output channel of the node device, in accordance with predetermined information output from another node device.

Amended independent Claim 52 is a method claim that substantially corresponds to Claim 46. Amended independent Claim 41 is a communication network that includes, *inter alia*, a node device that substantially corresponds to Claim 46, and amended independent Claim 51 is a method claim that substantially corresponds to Claim 41.

The applied art is not believed to disclose or to suggest the features of amended independent Claims 41, 46, 51 and 52. More specifically, the applied art is not believed to disclose or to suggest at least the feature of controlling in order to deviate a timing between when a switching means of an adjacent node device connects a first buffer and a first output channel of the adjacent node device, from a timing when a switching means of a node device itself connects a first buffer and a first output channel of the node device, in accordance with predetermined information output from another node device.


Claim 1 to 66 of Yamamoto merely disclose switching channels through which signals are output based on a predetermined pattern. However, none of Claims 1 to 66 disclose or suggest that the switching is controlled in order to deviate a timing between when a switching means of an adjacent node device connects a first buffer and a first output channel of the adjacent node device, from a timing when a switching means of a node device itself connects a first buffer and a first output channel of the node device, in accordance with predetermined information output from another node device.

Accordingly, the claims of the subject application are non-obviously different from Claims 1 to 66 of Yamamoto and therefore, the double patenting rejection should be withdrawn.

In view of the foregoing amendments and remarks, the entire application is believed to be in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience.

Applicants' undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



Attorney for Applicants

Registration No. 42,746

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-2200
Facsimile: (212) 218-2200

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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE TO CLAIMS

41. (Amended) A communication network comprising a plurality of node devices, wherein [at least one] a first node device of said plurality of node devices comprises:

[a first connection means for connecting] a plurality of buffers for storing a signal received from each channel of a plurality of input channels [for inputting a signal transmitted from a first node device];

[a second connection means for connecting a plurality of output channels for outputting a signal to a second node device;

a changing means for changing] a switching means for altering an output channel [for outputting a signal input from each of said input channels] connected to each buffer of said plurality of buffers in accordance with a predetermined pattern in order; and

a control means for controlling in order to deviate[ing] a timing when a switching means of an adjacent node device connects a first buffer and a first output channel of the adjacent node device, from a timing when said switching means of the first node device connects a first buffer and a first output channel of the first node device, in accordance with predetermined information output from another node device [a first output channel is selected as a channel for outputting a signal input from a first input channel for said first node device and a timing when a first output channel is selected as a channel for

outputting a signal input from a first input channel of the node device, based on information input from said input channel].

42. (Canceled)

43. (Amended) [A] The communication network according to claim 41, wherein said predetermined information is a pattern [is one] wherein a signal input from one input channel is not simultaneously output to a plurality of output channels.

44. (Amended) [A] The communication network according to claim 41, wherein said predetermined information [input from said input channel] is communicated by a control packet.

45. (Amended) [A] The communication network according to claim 41, wherein said predetermined information [input from said input channel] is communicated by a data packet for communicating data.

46. (Amended) A node device, comprising:

[a first connection means for connecting] a plurality of buffers for storing a signal received from each channel of a plurality of input channels [for inputting a signal transmitted from a first node device];

[a second connection means for connecting a plurality of output channels for outputting a signal to a second node device;

a changing means for changing] a switching means for altering an output channel [for outputting a signal input from each of said input channel] connected to each buffer of said plurality of buffers in accordance with a predetermined pattern in order; and

a control means for controlling in order to deviate[ing] a timing between when a switching means of an adjacent node device connects a first buffer and a first output channel of the adjacent node device, from a timing when said switching means of the node device itself connects a first buffer and a first output channel of the node device, in accordance with predetermined information output from another node device [a first output channel is selected as a channel for outputting a signal input from a first input channel for said first node device and a timing when a first output channel is selected as a channel for outputting a signal input from a first input channel of the node device, based on information input from said input channel].

47. (Canceled)

48. (Amended) [A] The node device according to claim 46, wherein said predetermined [pattern] information is a pattern wherein a signal input from one input channel is not simultaneously output to a plurality of output channels.

49. (Amended) [A] The node device according to claim 46, wherein said predetermined information [input from said input channel] is communicated by a control packet.

50. (Amended) [A] The node device according to claim 46, wherein said predetermined information [input from said input channel] is communicated by a data packet for communicating data.

51. (Amended) A communication control method for a communication network comprising a plurality of node devices [which each communicate using] each having a plurality of buffers for storing a signal received from each channel of a plurality of input channels and each having a switching means for altering an output channel connected to each buffer of [a] said plurality of [output channels and which change an output channel for outputting a signal input from each of said input channels] buffers in accordance with a predetermined pattern, in order, the method comprising the steps of:

[performing] a communication process for communicating predetermined information among the plurality of node devices; and

[performing] a control process for controlling in order to deviate[ing] a timing when the switching means of adjacent node devices from among the plurality of node devices connect a respective first buffer and a first output channel [a first output channel is selected as a channel for outputting a signal input from a first input channel from

among the plurality of node devices, based on the predetermined information communicated in the communication process].

52. (Amended) A control method for a node device [which communicates using] having a plurality of buffers for storing a signal received from each channel of a plurality of input channels of the node device and a switching means that alters an output channel connecting each buffer of said plurality of buffers [plurality of output channels and which changes an output channel for outputting a signal input from each of said input channels] in accordance with a predetermined pattern, in order, the method comprising the steps of:

[performing a communication process for communicating] a receiving process for receiving predetermined information [with] output from another node device; and

[performing] a control process for controlling in order to deviate a timing when a switching means of an adjacent node device connects a first buffer and a first output channel of the adjacent node device, from a timing when the switching means of the node device itself connects a first buffer and a first output channel of the node device, [is selected as a channel for outputting a signal input from a first input channel from said another node device, based on] in accordance with the predetermined information [communicated] received in the [communication] receiving process.